STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forestland proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Poohs Pot** *Agreement #:* **30-076529**

2. Name of applicant: **Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, Washington 98611-0280
   Phone: (306) 274-2035
   Contact Person: Eric Wisch

4. Date checklist prepared: **5/28/2004**

5. Agency requesting checklist: **Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **FY-2005**
   b. *Planned contract end date (but may be extended)* **FY-2007**
   c. *Phasing:* **None anticipated**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Yes

   Timber Sale

   a. **Site preparation: Aerial spray may be used in areas of heavy concentration of salal and vine-maple to reduce the establishment of competing species and crown cover that impedes the health of young tree development.**
   b. **Regeneration Method: Hand plant Douglas fir and western red cedar that will meet or exceed Forest Practices standards.**
   c. **Vegetation Management: Chemical or mechanical methods may be used to reduce competition of other species such as salal and vine maple from inhibiting regeneration goals.**
   d. **Thinning: A pre-commercial and commercial thinning may be scheduled in the future.**

   Roads:

Road maintenance assessments will be conducted annually, to include periodic ditch and culvert cleanout. Road grading will be completed as necessary. There will be no need for a RUP for this sale. Portions of Spur A and all of Spur B will be abandoned after completion of this sale.

Rock Pits and/or Sale: **The pit will be maintained in a safe condition with proper drainage. The rock pit may be used for other current or future projects in the vicinity.**

Other: **Direct sale of firewood from the sale area may occur following harvest completion. Firewood salvage of logging residue may occur following harvest.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☐*303 (d) – listed water body in WAU:* ☐*temp.* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Road Plan available at Pacific Cascade Region Office**
☐*Wildlife report:*
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **Available at Pacific Cascade Region office**
☒*Other:* **Spotted owl habitat mapping, Forest Practices Activity Maps, WAU map for rain-on-snow areas, Forest Resource Plan (DNR, July 1992), State soil survey, DNR GIS databases, Habitat Conservation Plan (January, 1997), HCP Checklist (attached), Planning and Tracking Special Concerns Report, RMAP # R2900196 and associated maps.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA:* **Blanket HPA for type 4 and 5 waters 00-F3502-01** ☐*Burning permit*
☐*Shoreline permit*
☒*Incidental take permit* **ITP 1168 and PRT-812521** ☒*FPA* **2910633** ☐ *Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

This sale is a regeneration harvest of 123 acres in two units and right-of-way. Approximately 808 trees will be left, scattered and clumped, for future wildlife habitat. One Type 3 stream will be protected with a riparian management zone (RMZ) buffer averaging 165 feet and two Type 4 streams protected by 100 foot wide RMZs. This proposal is consistent with our spotted owl strategy. Protection of identified cavities in older decayed snags for nesting purposes were selected to help with spotted owl and osprey habitat.

Sale of Timber
Estimated Total Volume: 4,180 MBF
Unit 1: 1,080 MBF
Unit 2: 3,000 MBF
R/W: 100 MBF

Unit 1: Gross Proposal Acres: 35
Leave Tree Areas: 3
RMZ Acres: 5
Net Harvest Acres: 27
Leave trees scattered and clumped: 230

Unit 2: Gross Proposal Acres 85
Leave Tree Acres: 8
RMZ Acres: 15
Net Harvest Acres: 62
Leave trees scattered and clumped: 578

Right of Way: Acres: 3
Total Leave Tree Acres: 11
Total RMZ Acres: 20
Total Net Harvest Acres: 89
Total Proposal Area Acres (Gross): 123
Total leave trees scattered and clumped: 808
5,448 feet of road construction
5,200 feet of pre-haul maintenance
2,848 feet of road abandonment

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Overall Unit Objective: The overall objective of this proposal is to maximize revenue, consistent with other FMU objectives, for the trust and to protect upland water systems and wildlife habitats. This will be accomplished with a regeneration harvest, followed up by an intensive silvicultural management prescription.

Pre-harvest Stand Description: The pre-harvest stand consists of good quality dominant Douglas-fir and western hemlock averaging 40-45 Mbf/ac. Large remnant trees are scattered throughout this area and will be retained as leave trees. Alder pockets exist along streams and wet areas. The understory is light, with Oregon grape and fern throughout.

Harvest Systems: **These two units will be harvested using ground-based and cable yarding systems.**

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Roadwork is outlined below, with site-specific details in the timber sale road plan available at the Pacific Cascade Region office.

Road Narrative: Spur A will consist of 46+40 stations of construction, of which 20+40 stations will be temporary construction. Ten culverts will be used for cross drains on Spur A. Spur B will consist of 8+08 stations of temporary construction with two cross drain culverts. For abandonment, six culverts will be removed including the culvert crossing on the Type 4 stream. Approximately 350-feet of road construction will entail full bench design. Approximately 5,200 feet of pre-haul maintenance will be performed on the haul routes, the N-6600, N-6600-A and the N-6600-B roads. Rock will be removed from the Power Pit location in Section 22, Township 6 North, Range 3 East, W.M.. A potential rock source around station 25+50 may be used per Contract Administrators approval

The primary source of rock will be removed from the Power Pit off the N-6600 B road (Section 22 6N R3E). A rock source at station 25+00 on Spur A may be used with approval from the contract administrator.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		**5,448**	**3**	**0**
Reconstruction				
Abandonment		**2,848**	**4**	**0**
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)	**12**			

Temporary roads: A temporary road is defined in Forest Practice rules as a forest road that is constructed and intended for use during the life of the approved forest practices application. All temporary roads must be abandoned in accordance with WAC 222-24-052(3). The length listed above is also included in the "Construction" and "Abandonment" sections of the chart above.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map. See also color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **Section 16,Township 6 North, Range 3 East, W.M.**
Section 22,Township 6 North, Range 3 East, W.M. "This is the Power Pit location."

b. *Distance and direction from nearest town (include road names):*

The proposal lies east of Woodland, WA approximately 18 miles on HWY 503. The sale is located off the N-6600 road.

Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU Acres	DNR WAU Acres	Sub-Basin Number	Sub-Basin Acres	DNR Sub-Basin Acres	Proposal Acres in Sub-Basin(estimated)
Lake Merwin	**41,417**	**17,450**	**11**	**1,638**	**507**	**30**
			12	**1,148**	**687**	**70**

The acreages listed above are from DNR /HCP/ WAU data layers and reflect unit acres including leave trees.

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

Known and Observed WAU conditions: The majority of the Lake Merwin WAU is managed for commercial timber production. The DNR manages about 42% of the WAU and private industrial timber companies manage a majority of the remaining acreage. Some agricultural lands and rural residential properties exist around Lake Merwin.

In the past seven years the Lake Merwin WAU has had 2255 acres with regeneration harvest and 479 acres of thinnings. The 2005 and 2006 sales estimated to have 630 acres with regeneration and 51 acres of thinning. This proposal is one of four potential FY 2005 sales occurring in the Lake Merwin WAU. Adjacent to Poohs Pot in the past seven years the nearest sales are regeneration harvests; Lowball is 800 feet to the east with a 53 acre 4-year old plantation, Watership Down U1 is a sold, 38 acre unit, 750 feet north, Club House is a 49 acre 3-year old plantation, 3,500 feet to the north east, and One Horn is a 83 acre 1-year old plantation unit, 5000 feet to the west. Proposed sales for 2005 and 2006 will include an additional four sales to Poohs Pot. They include; Rusty Nail a 99 acre regeneration harvest, 2 miles north, Spinnakar Run a 71 acre regeneration harvest that is 3 miles north, Willy Thin a 51 acre thinning 3 miles northwest, and Amboy thin a 89 acre thinning 3 miles south . These sales have incorporated the strategies outlined under the Habitat Conservation Plan (HCP) and follow Forest Practices guidelines. Approximately 66% of the 17,450 acres within the WAU managed by the DNR will be greater than 25 years old after harvesting all the present planned sales.

Many areas within the Lake Merwin WAU are candidates for future regeneration and commercial thinning harvests. Additional roads and pit development may occur for access to forest management activities on State and other ownerships. The high site potential of this area makes it suitable for continued forest management. This unit is located below the ROS zone and within two sub-basins, # 11 and #12.

Mitigation elements: A variety of mitigation measures have been incorporated into the design of this sale to ensure that the water quality and habitat conservation standards of the HCP will be met. These same measures will be implemented on future sales in the area.

- **RMZ's and leave tree areas were left for protection of water quality and preserving forest floor ecosystems.**
- **Road construction will include culverts and/or ditches as needed to provide drainage onto stable forest floors.**
- **Restrictions for hauling and ground-based yarding will be implemented to protect water quality and soil damage.**
- **Cable yarding will require lead-end suspension on slopes greater than 50%.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**

Timber harvest locations in the immediate area follow department guidelines to ensure that green-up requirements are met. RMZ protection for the major watercourse will continue to provide important riparian habitat and mitigate for potential peak flow events. The combination of site-specific measures for this proposal and overall landscape objectives should not cause adverse environmental impacts.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

Flat, Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Lake Merwin WAU drains into the Lewis River and includes segments now inundated by Yale Reservoir and Lake Merwin Reservoir. The WAU covers approximately 41,000 acres, 1/3 of which is managed by the State of Washington Department of Natural Resources (DNR). The WAU can be categorized as mountainous, with steep slopes rising out of drainages and upland benches, ridges and peaks. The deep soils found within the WAU allow for high growth potential and typically recover well following natural disturbances. The lower limit of the rain-on-snow (ROS) zone generally occurs between 1,500 to 2,000-feet and the upper limit between 2,500 to 3,000-feet. Most of the WAU falls within the western hemlock forest zone. At present, the primary forest type is even-aged Douglas-fir/western hemlock forest. Apart from small isolated areas of agricultural land and residential development, timber management is common in the WAU.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposal is similar to most upland benches within the WAU.

b. What is the steepest slope on the site (approximate percent slope)? **55%**

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

The acres listed in the soils table below are for those areas where timber harvest takes place.

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
1099	**Silt loam**	**5 - 10%**	**34**	**Insignific't**	**Medium**
5308	**Gravelly silt loam**	**30 - 60%**	**55**	**Low**	**Medium**
6101	**Cobbly silt loam**	**30 - 65%**	**3**	**Low**	**Medium**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

The Type 3 stream north of Unit 2 shows signs of shallow rapid slides. Indicators include poorly vegetated areas in stream draws and deposits of transported materials on the gentle gradients below steep stream segments. This proposal will have little effect on this stream. The steep north facing slopes above the streams are within the stream buffer. Peak snow runoffs and steep slopes along the stream channel will have little impact to this buffer and with harvest operations.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒ *Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

This sub-basin includes signs of natural slope failures. Most of these are deep-seated failures related to stream cutting, steep slopes, weak rock, poorly consolidated and highly erodible soils, and possibly past seismic activity. Most of these slides are found on slopes steeper than 60%. Some shallow rapid slides are also evident, mostly along steep stream channels. These are probably related to peak flow events and streams cutting through erodible soils.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

A few small, shallow slides are visible along the roads. These appear to be from slopes with steeper weak erodible soils or from side-cast failures on steeper slopes. In some places, road construction may contribute to failures in stream draws by diverting water from natural drainages, providing inadequate drainage structures, or by concentrating water and delivering runoff onto erodible soils.

4) *Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?* ☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

This sale area has indications of past slope failures, mostly on the slopes over 60% and near streams. These failures are similar to other failures throughout the sub-basins. These failures appear to have been triggered by natural forces, such as stream cutting and seismic events. Areas with evidence of recent or likely mass wasting have been excluded from the harvest areas and are protected by leave tree areas and RMZs.

5) *Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.*

Slope stability protection measures:

- **RMZs and other leave areas protect most of the stream draws, including the streams on slopes over 50% where mass wasting is a greater concern.**
- **Roads have been located to avoid identified potentially unstable areas.**
- **Full bench construction will be used on slopes over 50%. Waste materials will be hauled to stable waste areas to prevent side cast failures.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Approximately three acres of new roads will be constructed. Fill source is native earth material.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Some incidental erosion may occur resulting from this proposal and should be confined to the associated roads and harvest area. See B. 1. h. below for mitigation.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 2% of this proposal will have impervious surfaces.

h. Propose measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Protection measures to reduce erosion associated with roads:

- **Seasonal timing restrictions will be used to minimize road construction activities during wet weather conditions.**
- **Soils exposed during road construction, including any waste areas, will be treated with erosion control measures, such as re-vegetation.**
- **Roads will be maintained as needed to control water runoff and avoid delivery of sediment to live water.**
- **Drainage structures will be properly installed and maintained.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to prevent sediment delivery to water.**
- **Periodic maintenance and inspection of the road system to insure proper function.**

Protection measures to reduce erosion associated with active logging operation:

- **Ground yarding will be restricted to slopes less than 35%.**
- **Cable yarding areas will maintain lead-end suspension will be required on slopes greater than 50%.**
- **Ground yarding will be restricted to slopes of 35% and less during dry soil conditions to minimize soil impacts including compaction and rutting.**
- **Skid trails will be water barred as necessary to minimize sediment delivery to live water.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling,* automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and heavy equipment.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map and forest practice base maps.)*

Yes, the west side of Unit 1 and the east side of Unit 2 are bordered by Falls Creek, a Type 4 stream. The north and northwest side of Unit 2 is boarded by a Type 3 tributary of Rock Creek. Five Type 5 streams are present and have been used for leave tree areas to protect the integrity of downstream channels and give structural integrity to buffered out potential unstable soils. All streams are tributaries to Merwin Lake. All streams have been typed using the Interim Water Typing criteria in the Forest Practices Rules.

a) Downstream water bodies: **Merwin Lake**

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Tributary to Rock Creek	**3**	**1**	**165**
Falls Creek	**4**	**1**	**100**
Unnamed	**4**	**1**	**100**
Unnamed	**5**	**5**	**None**

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

The one Type 3 water is protected with a 165-foot RMZ, the two Type 4 waters are protected with a 100-foot RMZ on affected sides and the five Type 5 waters were treated as leave tree areas. RMZ's and leave tree areas were left for protection of water quality and preserving riparian ecosystems. Road construction will include culverts and/or ditches as needed to provide drainage onto stable forest floors. Restrictions for hauling and ground-based yarding will be implemented to protect water quality and minimize soil damage. Cable yarding will require lead-end suspension on slopes greater than 50%. Ground yarding restrictions will be prescribed to minimize soil impacts including compaction and rutting.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map.) Description (include culverts)*

Falling and harvesting will come within 200-feet from the mentioned waters, but not less than 165-feet for the Type 3 water and 100-feet for the Type 4 waters. One of the Type 4 waters will be crossed with a temporary road and some clearing is needed through the RMZ.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material**.**

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☐*No* ☒*Yes, description:*

A temporary diversion for the one Type 4 crossing will be needed for installation purposes.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Yes. These sub-basins have some poorly consolidated and highly erodible volcanic soils, often underlain by weak volcanic rocks. These areas are susceptible to surface erosion and mass wasting. Combined with steep slopes and ROS events, eroded materials can enter surface waters. About 10% of the WAU is rated as having soils that are unstable when disturbed. Approximately seven percent of the WAU is rated as possessing high mass wasting potential, and 78% of the area is considered to have either insignificant or low mass wasting potential.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), and change in channel dimensions)? ☐*No* ☒*Yes, describe changes and possible causes:*

Many streams within these sub-basins show signs of channel changes due to surface erosion and mass wasting. The changes include steep stream draws, concave features along the streams and large deposits of rocks and debris at the toes of steep stream segments.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*

This proposal may cause some minimal increase in sedimentation as a result of road construction and harvest operations. Buffered riparian areas will help preserve natural stream and water quality.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☐*No* ☒*Yes, describe:*

There are approximately four road miles per section in the Lake Merwin WAU and 1 mile per section in sub-basin #11 and 2 miles per section in sub-basin #12.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

In the winter of 1996, a 100-year event occurred. The rainstorm set rainfall and flood level records in Southwest Washington and Northwestern Oregon. The event caused many shallow mass-wasting events. Many stream channels were affected by this flood event. The full extent if this is not known. Many channels were altered in this event, due to high stream flows with accompanying sediment loads and possibly large woody debris delivery.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing/duration/amount of peak flow and flow rates may increase slightly during low flow periods during the first decade of the new forest. See B-3-a-16 below.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel and other lubricants may inadvertently be discharges to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water will be collected in the ditches and culverts and discharged onto the forest floor.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minimal logging slash may enter surface water.

a) Note protection measures, if any.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

See B.1.h above for additional erosion control measures.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☐*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☐*salmonberry,* ☒*salal,* ☒*other: Sword fern, Vine Maple*
☐grass
☐pasture
☐crop or grain
☐wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☐*devil's club,* ☐other:

☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

This is a proposed regeneration harvest. Most of the trees will be removed from Units 1 and 2 except for the 808 designated leave trees. In some areas, under-story and ground vegetation will also be disturbed or removed during road and landing construction and during harvest activities.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

Unit 1 is currently bordered on the north, east and south sides with stands 45 to 65 years old. Most of the stands are a mix of Douglas fir and western hemlock. Some areas are densely stocked with little under-story or ground vegetation. Other areas are more open, with an under-story of vine maple and huckleberry. The site contains a large number of scattered alder and big leaf maples. Most areas have large snags and down logs, relics of the Yacolt Burns. The moderate slopes were salvaged after the fires and have fewer of these larger snags.

The south edge of Unit 2 borders a Douglas-fir plantation about twelve years old. Most of the west edge of Unit 2 is bordered by 55 to 65 year old stands of Douglas fir, with red alder and a 165-foot RMZ off a tributary of Rock creek. The north boundary also has a 165-foot RMZ off the tributary of Rock Creek. The Northeast corner has a 55 to 65 year old stand of Douglas fir with an under-story of vine maple.

2) Retention tree plan:

On both units, eight trees per acre were retained for green tree retention. Leave tree areas include a representation of trees left on the unit. This includes several remnants of conifers, hardwoods and snags. A minimum of 808 leave trees will remain after harvest. Combined with the RMZs, these leave trees will help maintain the wildlife habitat and plant species diversity throughout the area.

Where operationally practical, the older residual conifers (pre-dating the Yacolt burns) have been left in leave tree clumps. There are many older snags over feet in diameter and over 80 feet tall. Many of the larger snags inside the harvest area may need to be felled due to Labor and Industry safety concerns. Leave tree clumps have been designed to preserve some of these snags.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☐hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☒other: barred owl and spotted owl
mammals: ☒deer, ☐bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☒other: osprey
unique habitats: ☐*talus slopes*, ☐*caves*, ☐*cliffs*, ☐*oak woodlands*, ☐*balds*, ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
1	**44499**	**Spotted owl # 799 Rock Creek – Lake Merwin**	**Threatened**	**Endangered**
2	**45739**	**Spotted owl # 799 Rock Creek – Lake Merwin**	**Threatened**	**Endangered**

c. Is the site part of a migration route? If so, explain.
☐*Pacific flyway* ☒*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River flyway a part of the Pacific Northwest forests. Many Neo-tropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan. Migratory waterfowl also use the Columbia River flyway. The area for this proposal is not generally the type of area used for resting or feeding by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

This activity conforms to the spotted owl site #799, and is not within the nesting, roosting, foraging or dispersal designated areas in the Columbia Planning Unit of the 1997 Habitat Conservation Plan, Forest Practices rules and regulations, and the 1992 Forest Resource Plan.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.
Species /Habitat: spotted owl Protection Measures**: This proposal is consistent with our spotted owl strategy. Protection of identified cavities in older decayed snags for nesting purposes were selected to help with spotted owl and osprey habitat.**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazards due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. Contractual clauses require operators to use established safety standards. The risk of forest fire may be increases for approximately two years following harvesting due to logging slash.

1) Describe special emergency services that might be required.

Department of Natural Resources, private and rural fire department fire suppression resources, emergency medical or air ambulance for personnel injuries. Hazardous material spills may require Department of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Fire equipment will be required on-site during closed fire season and operations will cease if relative humidity falls below 30%.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Heavy equipment, chain saws, yarding whistled and trucks will produce noise during periods of operation.

3) Proposed measures to reduce or control noise impacts, if any:

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

- **Timber Production, forest management**
- **The rock from rock pits may be sold to other forestland owners for forest road maintenance.**

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

c. What is the current zoning classification of the site?

Forestland

f. What is the current comprehensive plan designation of the site?

Cowlitz County currently has no comprehension plan.

g. If applicable, what is the current shoreline master program designation of the site?

Not Applicable.

h. Has any part of the site been classified as an “environmentally sensitive” area? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

These harvest units will be reforested with commercial species and retained as forestland.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐*No* ☒*Yes*

This proposal can be viewed from the south side of Merwin Lake in Clark County.

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☐*No* ☒*Yes, scenic corridor name:*

Buncombe Hollow, county road.

3) *How will this proposal affect any views described in 1) or 2) above?*

The view from the south side of Merwin Lake will show some forestland clearing.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The 808 clumped and scattered trees being left for wildlife, green tree and snag retention should mitigate some of the aesthetic impact associated with this proposed activity.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Hunting, mountain biking and hiking.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreational activities may be temporarily interrupted during periods of operation on the site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. Historic and Cultural Preservation

a. Are their any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

No

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

None

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

See A.12.b and the timber sale vicinity map.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Some new forest roads will be constructed and some existing roads will be improved. See A.11.c for details.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will be little impact from this proposal with extra truck traffic during the operation stage of this timber sale.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

During harvest, 20-30 vehicle trips per day to the sale area may occur. This will take place for three to four months. Upon completion of harvest activities, traffic levels will vary depending on seasonal use.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity, which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: **John Graham** **Date: June, 2004**
Title: **Forester 1, Cougar Unit**

Reviewed by: _____ Date: _____
State Lands Assistant Manager

Comments: _____